

ON SOME SPECIES OF PHAEDON.

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The species of the genus *Phaedon* have never before been thoroughly investigated and the correct identification of some of the species was always more or less troublesome. However, this has been recently remedied by the publication of three papers in the *Pan-Pacific Entomologist*, Vol. V, Nos. 1, 2, and 4. Two of these were published by Mr. Hatch in Nos. 1 and 2 in which he described nine new species. These were followed in No. 4 of the same publication by a paper of Mr. Fall, reviewing critically the two papers of Mr. Hatch and placing eight of the nine species described by the latter as new in synonymy of previously described species. Mr. Fall in his paper gave a good synoptic table for the identification of the species followed by notes on the different species characterizing also the species omitted by Mr. Hatch as unknown to the latter, which puts this formerly troublesome genus finally on a sound basis. However, the identification of two of our species as the European *cochleariae* and *armoraciae* was a mistake and I do not believe that the two occur here in North America.

Phaedon carri Hatch.

Phaedon cochleariae Fall not Fab.

This species on comparison with European specimens of *cochleariae*, with which it has been recently united by Mr. Fall, shows sufficient differences to entitle it to specific standing.

The European *cochleariae* is larger, the punctuation of all the elytral intervals is dual, that is, densely punctate with minute punctures and intermixed distinctly with larger punctures. Color is usually not of much importance, but no typical *cochleariae* nor any of its varieties are colored as *carri*, that is, dark bronze. Moreover, the coloration of the legs is variable in *carri*, the extreme of which, one specimen from New York, has the tarsi, tibiae, apex of femora and the first four antennal joints pale yellowish, in *cochleariae* no such variations are known. The sides of prothorax in *carri* are apparently also less arcuate and more straight than in *cochleariae*.

Phaedon americanus n. sp.

Phaedon armoraciae Hatch, Fall not Linné.

Oval, moderately convex, color dark olive green, last ventral segment more or less reddish. Head densely minutely punctulate with larger punctures intermixed, clypeus separated from front by an entire arcuate impression. Prothorax closely minutely punctulate with larger punctures intermixed, which are more numerous at sides than on disk, where they are also slightly smaller than those at the sides. Elytra slightly wider at base than the basal margin of prothorax; humeral callus prominent, separated internally by a rather deep impression; striae represented by rows of moderate punctures; intervals densely punctulate with very minute punctures with larger punctures intermixed on the first interval, which can be seen also more or less on the other intervals but very faintly, ventral segments microreticulate and punctate with moderately large punctures which are irregularly distributed over the first segment but situated near apical margin in a single transverse row on the following segments. Length 3.5 to 4 mm.

Marquette, Michigan (type), and in addition to the localities mentioned by Mr. Fall in his paper I have specimens from Coeur d'Alene, Idaho, and Kelso, Washington. The color varies a little in the specimens before me, some are slightly less darkly colored, others feebly bluish but none is so decidedly blue as most of the specimens of *armoraciae*.

This is the species identified by Mr. Hatch and Mr. Fall as the European *armoraciae*. While they are closely allied the punctuation of the elytral intervals at once separates them. In *armoraciae* all the intervals have a distinct dual punctuation consisting of very minute moderately closely placed punctures intermixed with numerous irregularly placed larger punctures which somewhat obscure the minute punctuation. In *americanus* the larger punctures when present on the intervals are not very distinct and seem to form an irregular row at middle of the intervals.